Resurgence of Polio Virus

Why in news?

The Global Polio Eradication Drive prepared a list of 30 countries including the U.S, where either imported wild or vaccine-derived poliovirus (VDVP), or circulating VDPV has been identified.

What is Polio disease?

- *Poliomyelitis*, commonly called polio, is a highly infectious viral disease that can leave patients disabled, and in some cases, even prove fatal.
- The virus enters the nervous system and can cause total paralysis in just a few hours.
- **Symptoms** - Initial symptoms of the infection include fever, fatigue, headache, vomiting, stiffness of the neck and pain in the limbs.
- **Treatment** - There is no known cure for polio. It can only be prevented by way of vaccination.

According to the World Health Organisation (WHO), one in 200 infections leads to irreversible paralysis, usually in the legs.

- **Types of Polio virus -** Wild poliovirus (WPV) has three known strains – types 1, 2, and 3 – each with a slight difference in structure.
- Immunity to one type does not guarantee immunity to others.
    - Type 1 WPV - remains in circulation and endemic to Pakistan and Afghanistan.
    - Type 2 WPV - declared eradicated in September 2015.
    - Type 3 WPV - declared eradicated in October 2019.
- **Spread of the disease** - The polio virus is most commonly spread through the faecal-oral route.
- It can also spread through contaminated water or food.
- The virus multiplies in the host's intestines.
- **Susceptible age group** - Most polio cases are recorded in children under five years of age, but all unvaccinated people can contract the disease.

What are the types of Polio vaccination?

- There are two types of vaccines – oral poliovirus vaccine (OPV) and inactivated poliovirus vaccine (IPV).
- **IPV** consists of inactivated (killed) poliovirus strains of all three types.
- The vaccine is administered through an intramuscular or intradermal injection.
- It produces antibodies in the blood against all three types of the poliovirus.
- **OPV** uses a weakened (also called attenuated) form of poliovirus, which can either be

one strain or a combination.
- OPVs are administered orally, they are more suitable for mass vaccination.

What is VDPV and cVDPV?

- **Vaccine-derived poliovirus (VDPV)** – The OPV strains while replicating in the gastrointestinal tract, genetically changes into a form that can paralyze.
- This may spread in communities that are not fully vaccinated against polio
- **Circulating vaccine-derived poliovirus (cVDPV) -** It occurs when local immunity to poliovirus is low enough to allow prolonged transmission of the original weakened virus in the OPV.

How about the picture in India?

- The Government of India launched the National Immunisation Day (NID), the Pulse Polio immunisation programme in 1995.
- It aims to administer polio drops to all children under 5 years.
- Additionally, Sub-National Immunisation Days are also conducted every year in high-risk areas.
- WHO removed India from its list of endemic countries with active poliovirus transmission and India is polio free.

India was declared polio free in 2014 by WHO.

What are India's concerns with global poliovirus resurgence?

- India shares border with polio-endemic countries Pakistan and Afghanistan and continues to face the threat of importation of the wild polio virus (WPV) and/or vaccine-derived polio viruses (VDPV).
- In 2021, India had announced that people returning to the country from Afghanistan would be vaccinated against polio as a preventive measure.
- World Health Organisation (WHO) said that India's robust surveillance system, along with routine immunisation and NIDs, meets the recommended global standards.
- There is no evidence of VDPVs circulating in the community.

References

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